

What is claimed is:

1. A photodetector, comprising:

a plurality of parallel absorption channels for receiving incident light, wherein the plural channels split the incident light.

2. The apparatus of Claim 1, wherein the length of the plural parallel absorption channels is less than the length of a single channel photodetector with substantially the same junction capacitance as that of the photodetector with the parallel channels.

3. The photodetector of Claim 1, wherein the parallel absorption channels operate as multi mode interference couplers.

4. A method for reducing power saturation in a photodetector, comprising:

absorbing incident light, wherein the incident light is absorbed by a plurality of parallel absorption channels.

5. The method of Claim 4, wherein the length of the plural parallel absorption channels is less than the length of a photodetector with a single absorption channel with substantially the same junction capacitance as the photodetector with plural parallel absorption channels.

6. The method of Claim 4, wherein the plural absorption channels operate as multi mode interference couplers.

5 7. An apparatus for reducing power saturation in a photodetector, comprising:

means for splitting incident light wherein the incident light is split by a plurality of parallel absorption channels.

10 8. The apparatus of Claim 7, wherein the length of the plural parallel absorption channels is less than the length of a photodetector with a single channel with substantially the same junction capacitance as that of the photodetector with the parallel channels.

15 9. The apparatus of Claim 7, wherein the plural parallel absorption channels operate as multi mode interference couplers.

10. A system for reducing power saturation in a photodetector, comprising:

20 a plurality of parallel absorption channels, wherein the plural absorption channel receive incoming incident light.

11. The system of Method 10, wherein the plural absorption channels operate as multi-mode interference couplers.